

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : C07K 14/195, C07H 21/04, A61K 39/02, A61P 1/00		A1	(11) International Publication Number: WO 00/69905
			(43) International Publication Date: 23 November 2000 (23.11.00)
(21) International Application Number: PCT/AU00/00438		(81) Designated States: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).	
(22) International Filing Date: 11 May 2000 (11.05.00)			
(30) Priority Data: 60/133,986 13 May 1999 (13.05.99) US			
(71) Applicants (for all designated States except US): PIG RESEARCH AND DEVELOPMENT CORPORATION [AU/AU]; 3rd Floor, Industry House, 10 National Circuit, Barton, ACT 2600 (AU). AGRICULTURE VICTORIA SERVICES PTY LTD [AU/AU]; 475 Mickleham Road, Attwood, VIC 3049 (AU).		Published With international search report.	
(72) Inventors; and			
(75) Inventors/Applicants (for US only): HASSE, Detlef [AU/AU]; 4 Scullin Court, Sunbury, VIC 3429 (AU). PANACCIO, Michael [AU/AU]; 112 Hill Road, North Balwyn, VIC 3104 (AU). SINISTAJ, Meri [AU/AU]; 3/60 Gourlay Street, East St. Kilda, VIC 3183 (AU).			
(74) Agents: OLIVE, Mark, R. et al.; Davies Collison Cave, 1 Little Collins Street, Melbourne, VIC 3000 (AU).			

(54) Title: **LAWSONIA DERIVED GENE AND RELATED OmPH POLYPEPTIDES, PEPTIDES AND PROTEINS AND THEIR USES**

(57) Abstract

The present invention relates generally to therapeutic compositions for the treatment and/or prophylaxis of intestinal disease conditions in animals and birds caused or exacerbated by *Lawsonia intracellularis* or similar or otherwise related microorganism. In particular, the present invention provides a novel gene derived from *Lawsonia intracellularis* which encodes an immunogenic OmPH peptide, polypeptide or protein that is particularly useful as an antigen in vaccine preparation for conferring humoral immunity against *Lawsonia intracellularis* and related pathogens in animal hosts. The present invention is also directed to methods for the treatment and/or prophylaxis of such intestinal disease conditions and to diagnostic agents and procedures for detecting *Lawsonia intracellularis* or similar or otherwise related microorganisms.